BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Pharm-2019/B.Pharm-2020/B.Pharm-2021
Course Name – Physical Pharmaceutics II
Course Code - BP403T
(Semester IV)

Full Marks : 75 **Time : 3:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question) 1 x 20=20

1. *Choose the correct alternative from the following :*

(i) Name the type of colloidal dispersion to which electrolytes are normally added in small quantities to stabilize:
a) Association b) Lyophilic
c) Lyophobic d) Micellar

(ii) Silica gel is an example for the type of gel, Identify the correct one:
a) Dilatant b) Elastic
c) Rigid d) Thixotropic

(iii) Sulphur sol is an example of colloidal type, Select the correct one:
a) Association b) Hydrophilic
c) Lyophilic d) Lyophobic

(iv) In high concentrations, electrolytes destabilise a lyophilic sol by a process named as:
a) Coagulation b) Dilution
c) Salting out d) Solvation

(v) Identify an example for colloidal system:
a) Clays and gels b) Oinments and pastes
c) Soaps and protiens solutions d) Suspensions and emulsions

(vi) The protective ability of colloids is measured as, Select the correct one:
a) Zeta potential b) Streaming potential
c) Gold number d) None of these

(vii) Scattering of light is shown by
a) emulsion b) suspension
c) Colloidal particles d) Homogenous solutions

(viii) The continuous collisions between the colloidal particles and molecules of dispersion medium produce zigzag movement of colloidal particles which is named as
a) Brownian movement b) Tyndall effect
c) Diffusion d) Sedimentation

(ix) Flocculated suspensions shows the flow of a type

a) Dilatant
b) Plastic flow
c) Psedo plastic flow
d) Newtonian

(x) Fluidity is a term associated with newtoniam fluids. An equivalent term in plastic flow fluids is

a) apparent viscosity
b) flexibility
c) mobility
d) plastic viscosity

(xi) Predict in antithixotropy, the down-curve is frequently positioned to: (with respect to up-curve)

a) left.
b) origin
c) right
d) superimposible

(xii) The pseudoplastic flow behavior can be explained by:

a) apparent viscosity
b) area of hysteresis loop
c) hysteresis loop
d) yield value

(xiii) Predict after giving the i.m. injection of procaine penicillin G, the process of forming a depot in the muscle is due to

a) high yield value
b) low consistency
c) low yield value
d) rapid thixotropic recovery

(xiv) According to the Newton's law of viscosity observed that, "The shear stress in flowing fluid is to the rate of shear."

a) Inversely proportional
b) directly proportional
c) Square root
d) Perpendicular

(xv) Oil in water emulsions normally cream, choose the correct one

a) up first & down then
b) upward
c) downward
d) none of the these

(xvi) In case of emulsions, the viscosity immediately after preparation and during storage, respectively, will be:

a) higher and will gradually decrease
b) higher and gradually increase
c) lower and gradually decrease
d) lower and gradually increase

(xvii) In the stability of emulsion, predict which instability step is prevented by emulsifiers

a) breaking
b) coalescence
c) creaming
d) flocculation

(xviii) On commercial scale, emulsions are prepared by

a) centrifugation
b) dialysis
c) freezing
d) homogenization

(xix) Select one of the following dispersions does not have liquid continous phase

a) Nanosuspension
b) Microemulsion
c) Gel
d) Foam

(xx) For the preparation of w/o emulsion, the coalescence rate of

a) w/o has no relationship to the type of emulsion formed
b) o/w is equal to w/o coalescence rate
c) o/w is greater than w/o coalescence rate
d) w/o is greater than the o/w coalescence rate

Group-B

(Short Answer Type Questions) 5 x 7=35

2. Define association colloids with neat diagram. (5)
3. Describe the optical properties of colloids (5)
4. Explain the methods to determine the thixotropic behavior of liquids (5)
5. Describe viscoelasticity and describe various viscoelastic models (5)

6. With the help of neat diagram explain principle and working of coulter counter method to determine the particle size (5)
7. Explain rate equation, half- life, shelf life of zero-order reaction (5)

OR

Illustrate Arrhenius plot and give its significance in calculation of shelf life (5)
8. Explain the preventive measures for chemical degradation due to hydrolysis (5)

OR

Explain stability and illustrate the storage conditions for stability evaluation of pharmaceutical products (5)

Group-C

(Long Answer Type Questions) 10 x 2=20

9. Describe emulsions with its classification and explain any one methods to emulsions (10)
10. Explain chemical degradation of pharmaceutical compounds due to oxidation. Explain its preventive measures (10)

OR

Illustrate the objectives, salient features, methodology and limitations of accelerated stability studies (10)

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